




# **Adverse Childhood Experience Study**

[www.acestudy.org](http://www.acestudy.org)

The ACE Study is ongoing collaborative research between the Centers for Disease Control and Prevention in Atlanta, GA, and Kaiser Permanente in San Diego, CA.



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- The initial phase of the ACE Study was conducted from 1995 to 1997
  - Each study participant completed a confidential survey that contained questions about childhood maltreatment and family dysfunction, as well as items detailing their current health status and behaviors. This information was combined with the results of their physical examination to form the baseline data for the study.

The Co-principal Investigators of The Study are Robert F. Anda, MD, MS, with the CDC; and Vincent J. Felitti, MD, with Kaiser Permanente.



## The ACE Study

- “It was 1985, and Dr. Vincent Felitti was mystified. The physician, chief of Kaiser Permanente’s Department of Preventive Medicine in San Diego, CA, couldn’t figure out why, each year for the last five years, more than half of the people in his obesity clinic dropped out. Although people who wanted to shed as little as 30 pounds could participate, the clinic was designed for people who were 100 to 600 pounds overweight.
- He decide to find out why people were dropping out and developed an interview format
- The turning point in Felitti’s quest came by accident. The physician was running through yet another series of questions with yet another obesity program patient: How much did you weigh when you were born? How much did you weigh when you started first grade? How much did you weigh when you entered high school? How old were you when you became sexually active? How old were you when you married?”





- “I misspoke,” he recalls, probably out of discomfort in asking about when she became sexually active – although physicians are given plenty of training in examining body parts without hesitation, they’re given little support in talking about what patients do with some of those body parts. “Instead of asking, “How old were you when you were first sexually active,” I asked, “How much did you weigh when you were first sexually active?” The patient, a woman, answered, ‘Forty pounds.’



- He didn’t understand what he was hearing. He misspoke the question again. She gave the same answer, burst into tears and added, “It was when I was four years old, with my father.”

- “I remembered thinking, ‘This is only the second incest case I’ve had in 23 years of practice’,” Felitti recalls. “I didn’t know what to do with the information. About 10 days later, I ran into the same thing. It was very disturbing. Every other person was providing information about childhood sexual abuse. I thought, ‘This can’t be true. People would know if that were true. Someone would have told me in medical school.’ ”
- Worried that he was injecting some unconscious bias into the questioning, he asked five of his colleagues to interview the next 100 patients in the weight program. “They turned up the same things,” he says.
- Of the 286 people whom Felitti and his colleagues interviewed, most had been sexually abused as children. As startling as this was, it turned out to be less significant than another piece of the puzzle that dropped into place during an interview with a woman who had been raped when she was 23 years old. In the year after the attack, she told Felitti that she’d gained 105 pounds.



- “As she was thanking me for asking the question,” says Felitti, “she looks down at the carpet, and mutters, ‘Overweight is overlooked, and that’s the way I need to be.’”
- During that encounter, a realization struck Felitti. It’s a significant detail that many physicians, psychologists, public health experts and policymakers haven’t yet grasped: The obese people that Felitti was interviewing were 100, 200, 300, 400 overweight, but they didn’t see their weight as a problem. To them, **eating was a fix, a solution.** (There’s a reason an IV drug user calls a dose a “fix”.)



**So...through a series of interactions with colleagues and friends of colleagues...**




One of the largest investigations ever conducted to assess associations between childhood maltreatment and later-life health and well-being was initiated





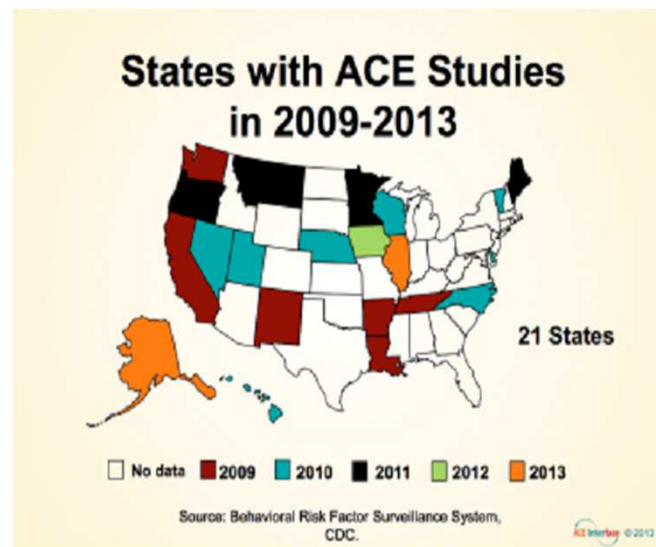
Over 17,000 Kaiser patients, participating in routine health screening, volunteered to participate in The Study.

Data resulting from their participation continues to be analyzed; it reveals staggering proof of the health, social, and economic risks that result from childhood trauma.



Demographic Categories		Percent (N = 17,337)
Gender	Female	54%
	Male	46%
Race	White	74.8%
	Hispanic/Latino	11.2%
	Asian/Pacific Islander	7.2%
	African-American	4.6%
	Other	1.9%
Age (years)	19-29	5.3%
	30-39	9.8%
	40-49	18.6%
	50-59	19.9%
	60 and over	46.4%
Education	Not High School Graduate	7.2%
	High School Graduate	17.6%
	Some College	35.9%
	College Graduate or Higher	39.3%

Findings, which have been replicated in 21 states, suggest that certain experiences are major risk factors for the leading causes of illness and death as well as poor quality of life in the United States







Realizing these connections is likely to improve efforts **towards prevention of ACE s** and recovery



The results can also inform our work in MIHP...



especially when  
addressing high risk  
domains



# What do we mean by Adverse Childhood Experiences?

- Child abuse and neglect
- Growing up in a home with
  - domestic violence
  - parental substance abuse
  - parental mental illness
  - parental discord
  - criminal behavior

**Questions**  
***Adverse Childhood Experiences***  
***First 18 years of life***



**Abuse**

Emotional Abuse

- Often or very often a parent or other adult in the household swore at you, insulted you, or put you down and sometimes, often or very often acted in a way that made you think that you might be physically hurt.

Physical Abuse

- Sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at you or ever hit you so hard that you had marks or were injured.

Sexual Abuse

- An adult or person at least 5 years older ever touched or fondled you in a sexual way, or had you touch their body in a sexual way, or attempted oral, anal, or vaginal intercourse with you or actually had oral, anal, or vaginal intercourse with you.



**Questions**  
**Adverse Childhood Experiences**  
**First 18 years of life**

**Household Dysfunction**

- Mother Treated Violently
- Your mother or stepmother was sometimes, often, or very often pushed, grabbed, slapped, or had something thrown at her and/or sometimes often, or very often kicked, bitten, hit with a fist, or hit with something hard, or ever repeatedly hit over at least a few minutes or ever threatened or hurt by a knife or gun

**Household Substance Abuse**

- Lived with anyone who was a problem drinker or alcoholic or lived with anyone who used street drugs

**Household Mental Illness**

- A household member was depressed or mentally ill or a household member attempted suicide.

**Parental Separation or Divorce**

- Parents were ever separated or divorced.

**Incarcerated Household Member**

- A household member went to prison.





## Questions

### **Adverse Childhood Experiences**

#### **First 18 years of life**

## **Neglect**

### Emotional Neglect<sup>1</sup>

- Respondents were asked whether their family made them feel special, loved, and if their family was a source of strength, support, and protection. Emotional neglect was defined using scale scores that represent moderate to extreme exposure on the Emotional Neglect subscale of the Childhood Trauma Questionnaire (CTQ) short form.

### Physical Neglect<sup>1</sup>

- Respondents were asked whether there was enough to eat, if their parents drinking interfered with their care, if they ever wore dirty clothes, and if there was someone to take them to the doctor. Physical neglect was defined using scale scores that represent moderate to extreme exposure on the Physical Neglect subscale of the Childhood Trauma Questionnaire (CTQ) short form constituted physical neglect.

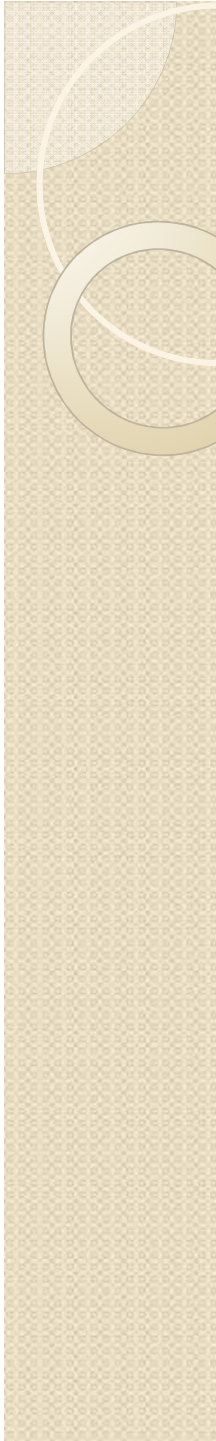
<sup>1</sup>Collected during the second survey wave only (N=8,667).

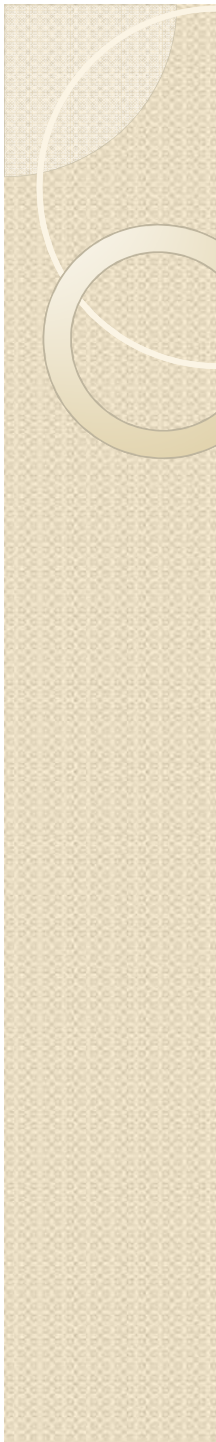


Now the activity!











# ACE are not uncommon

## Adverse Childhood Experiences Are Common

### Household dysfunction:

Substance abuse	27%
Parental sep/divorce	23%
Mental illness	17%
Battered mother	13%
Criminal behavior	6%

### Abuse:

Psychological	11%
Physical	28%
Sexual	21%

### Neglect:

Emotional	15%
Physical	10%

# Eye opener...

Our society has tended to treat the abuse, maltreatment, violence and chaotic experiences of our children as an oddity instead of commonplace, as the ACE Study revealed, noted Dr. Anda.

And our society believes that these experiences are adequately dealt with by *emergency* response systems such as child protective services, criminal justice, foster care, and alternative schools.

“These services are needed and are worthy of support — but they are a dressing on a greater wound,” he says.





As Williamson, the epidemiologist who also worked on the ACE Study, says: “It’s not just a social worker’s problem. It’s not just a psychologist’s problem. It’s not just a pediatrician’s problem. It’s not just a juvenile court judge’s problem.” In other words, this is everybody’s problem.



# Resilience activity







# Video

According to a CDC study, just **one year** of confirmed cases of child maltreatment costs **\$124 billion** over the lifetime of the traumatized children.

The researchers based their calculations on only **confirmed** cases of physical, sexual and verbal abuse and neglect, which child maltreatment experts say is a small percentage of what actually occurs.

The breakdown per child is:

- **\$32,648** in childhood health care costs
- **\$10,530** in adult medical costs
- **\$144,360** in productivity losses
- **\$7,728** in child welfare costs
- **\$6,747** in criminal justice costs
- **\$7,999** in special education costs



# Child maltreatment definition

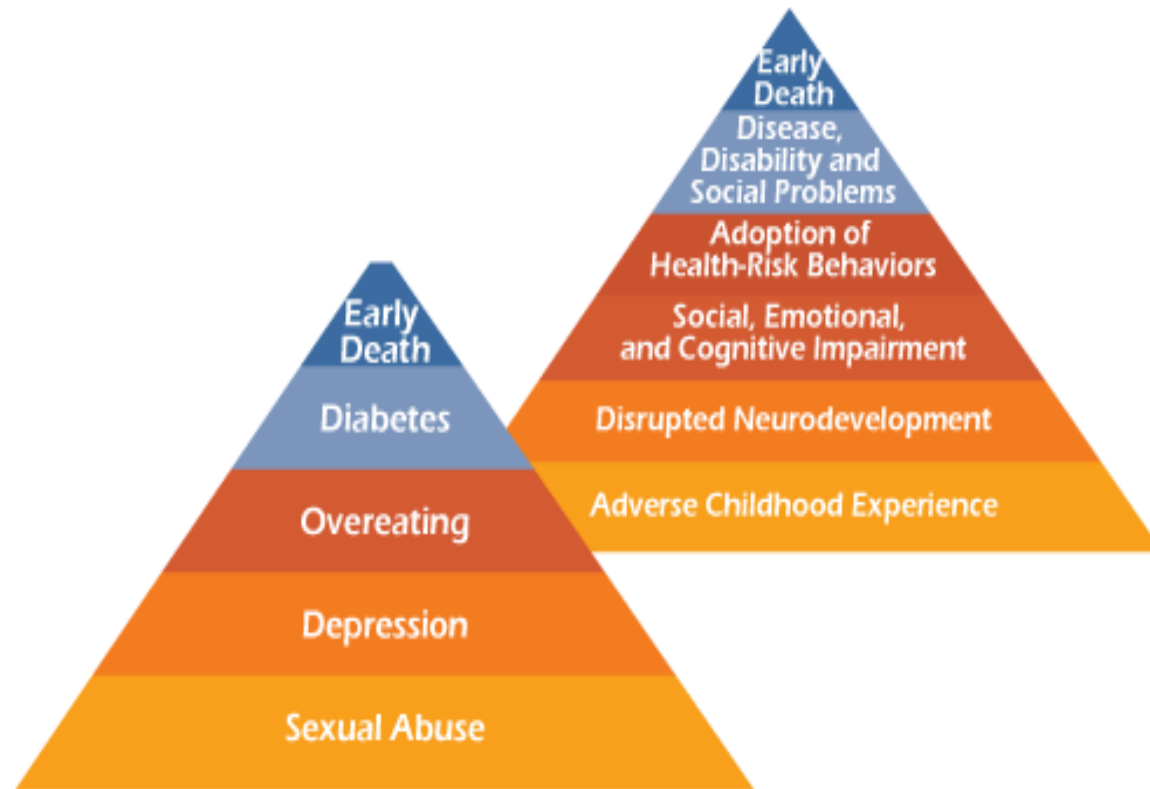
Any act or series of acts of commission or omission by a parent or other caregiver (e.g., clergy, coach, teacher) that results in harm, potential for harm, or threat of harm to a child



## Impact of Adverse Childhood Experience...The ACES pyramid



# Addressing the pyramid





# Adverse Childhood Experiences as a Public Health Issue



- **endemic**
- **highly interrelated**
- **cumulative stressor effect**
- **effects are biologically plausible**

# National Health Issue

With a strong influence on:

- adolescent health
- reproductive health
- smoking
- alcohol abuse
- illicit drug abuse
- sexual behavior
- mental health
- risk of re-victimization
- stability of relationships,
- homelessness
- performance in the workforce



# National Health Issue

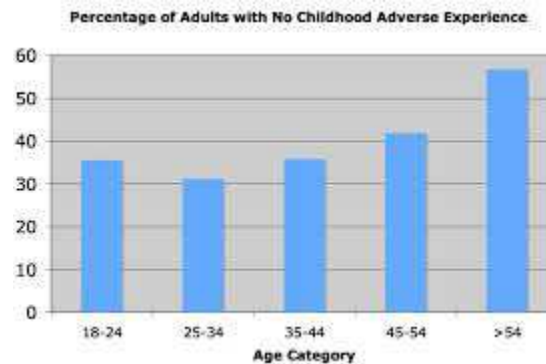
increase the risk of:

- Heart disease
- Chronic Lung disease
- Liver disease
- Suicide
- Injuries
- HIV and STDs
- and other risks for the leading causes of death



heart disease  
high blood pressure  
**OBESITY**  
cancer stroke diabetes

While some participants had no ACE



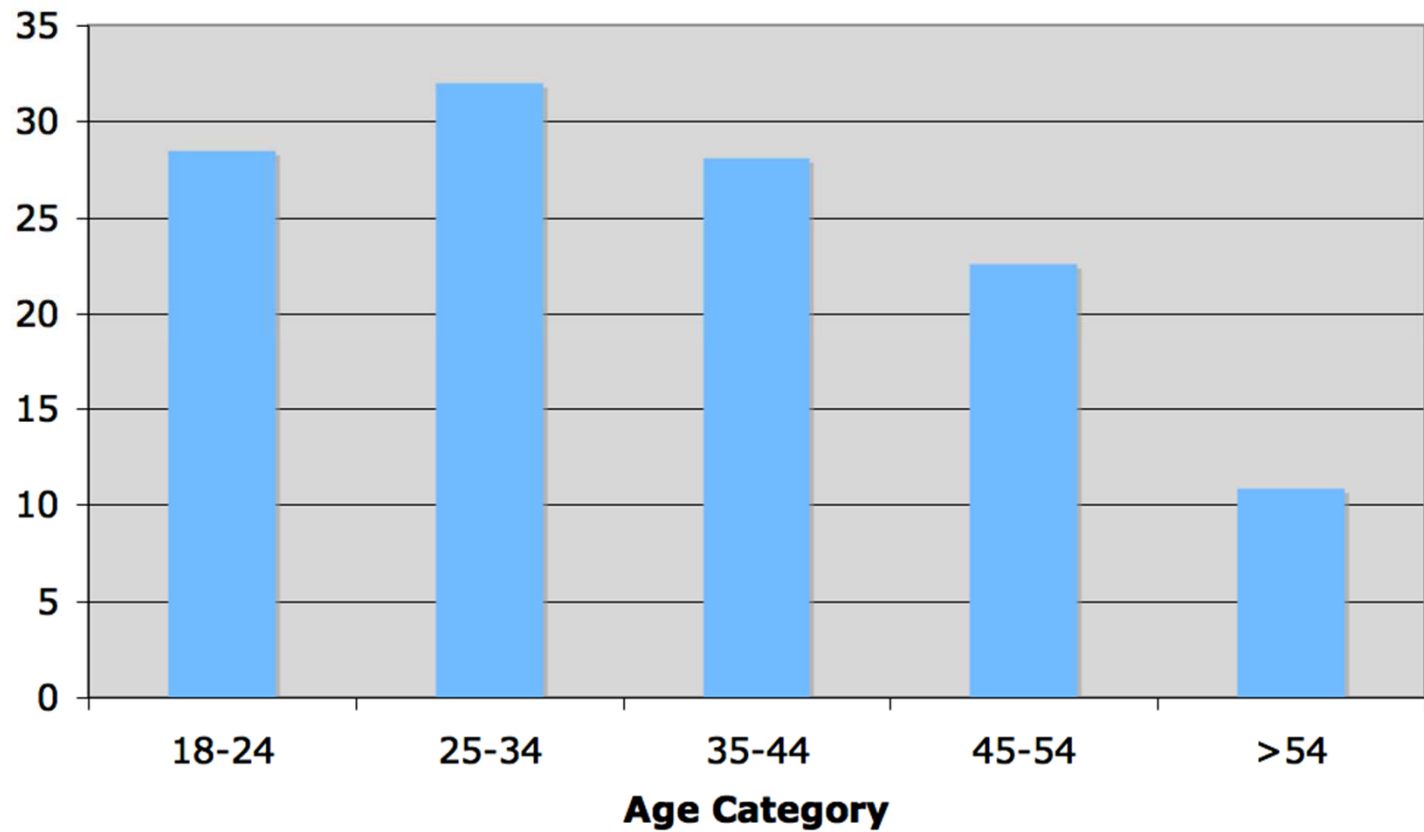
The majority had more than 1

Figure 2: Prevalence of adverse childhood events in study population (in percent)

ACE Score (sum of categories, not events)	Prevalence
0	33%
1	25%
2	15%
3	10%
4	6%
5 or more	11%

# Age dependent

**Percentage Reporting Three or More Childhood Adverse Experiences**





ACEs tend to come in groups...



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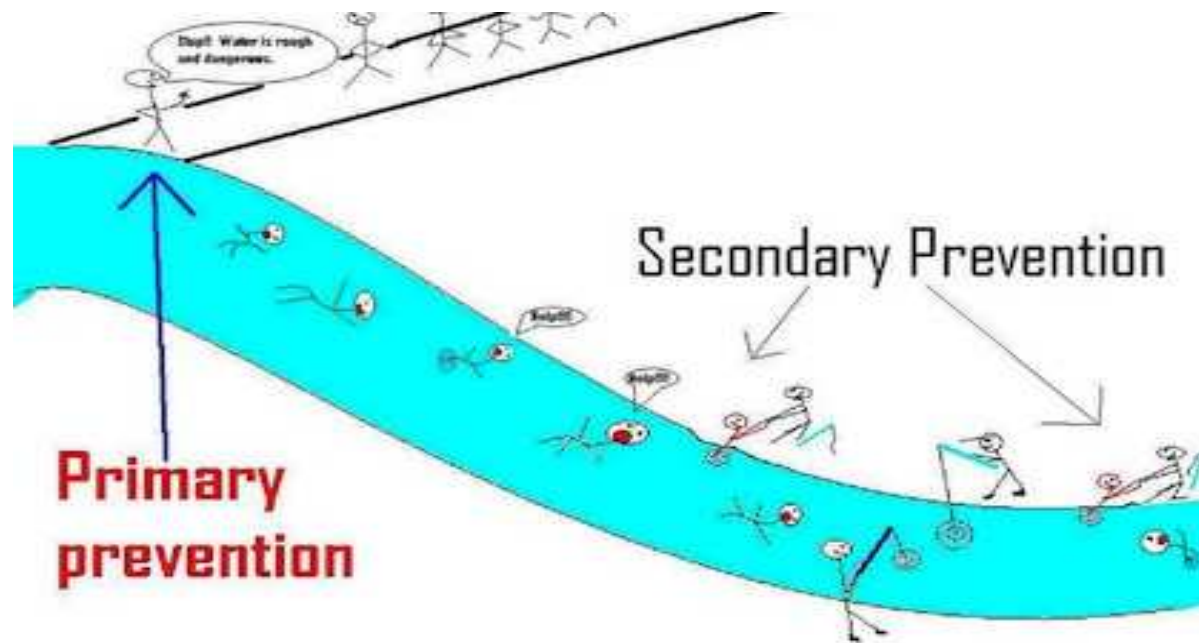
	Additional ACEs (%)				
	1	2	3	4	<u>≥5</u>
<i>If you had:</i>					
A battered mother	95	82	64	48	52

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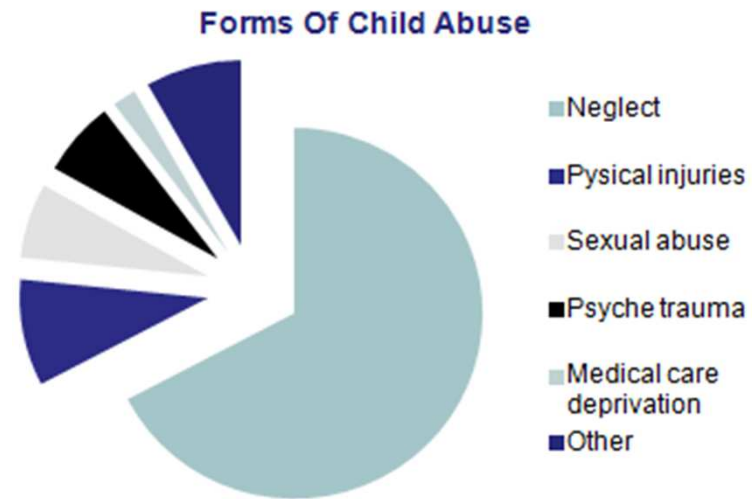
# Prevalence of Childhood Abuse by Frequency of Witnessing Domestic Violence

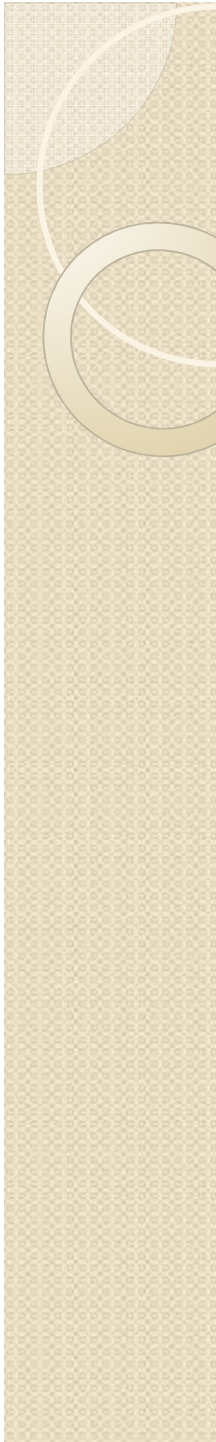


# Prevention

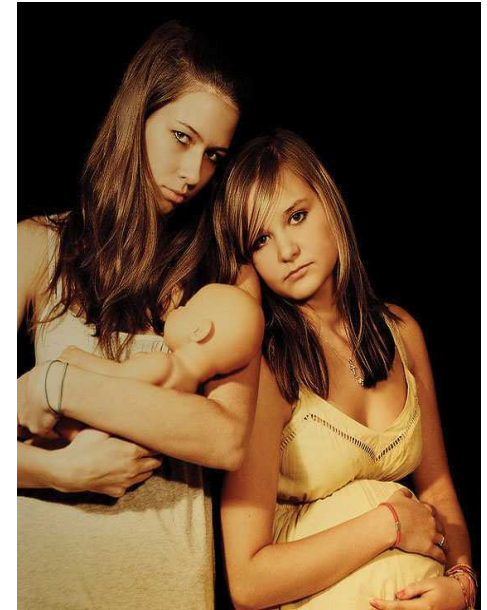
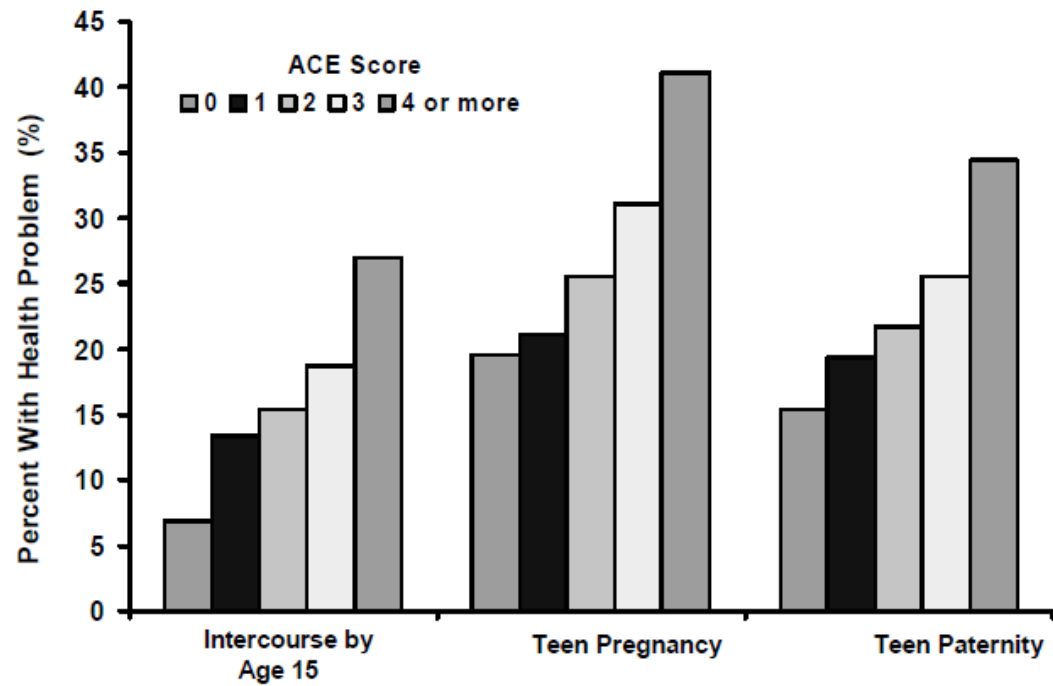


vs. waiting to treat



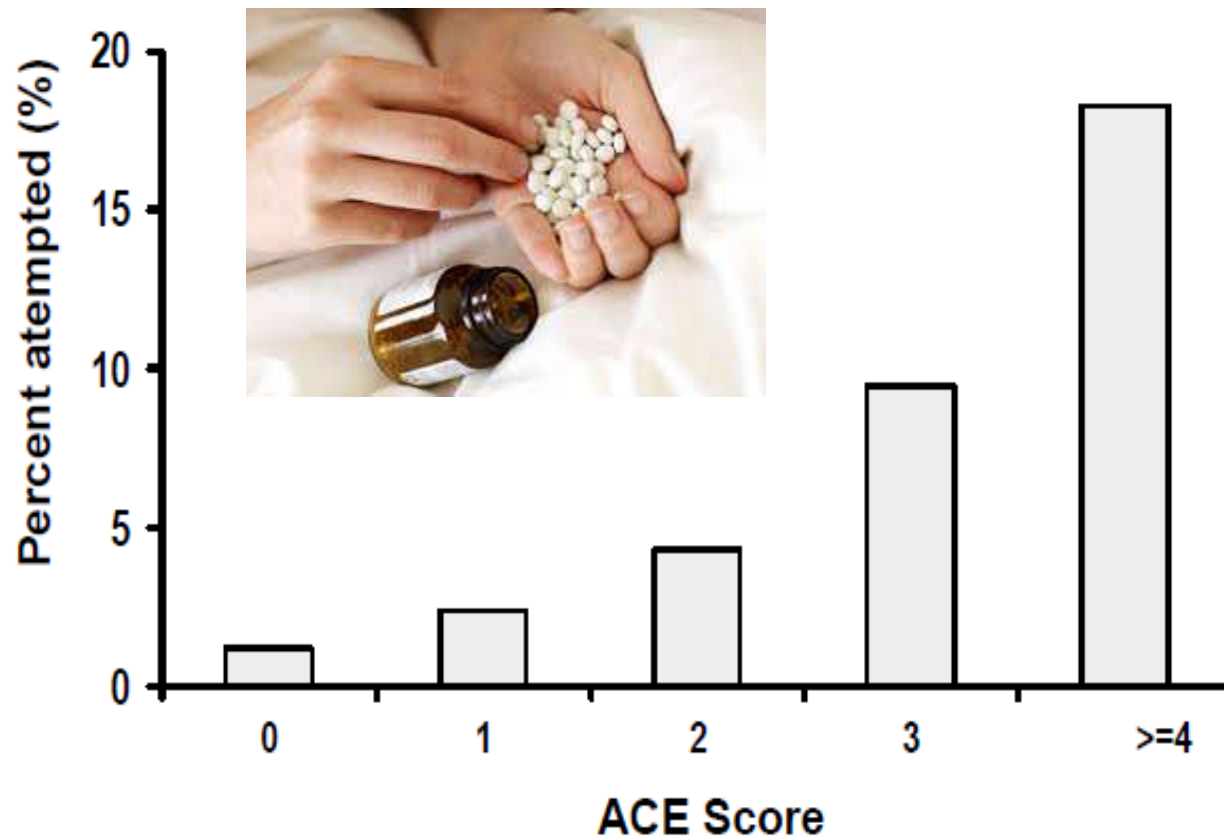


## ACE Score and Teen Sexual Behaviors



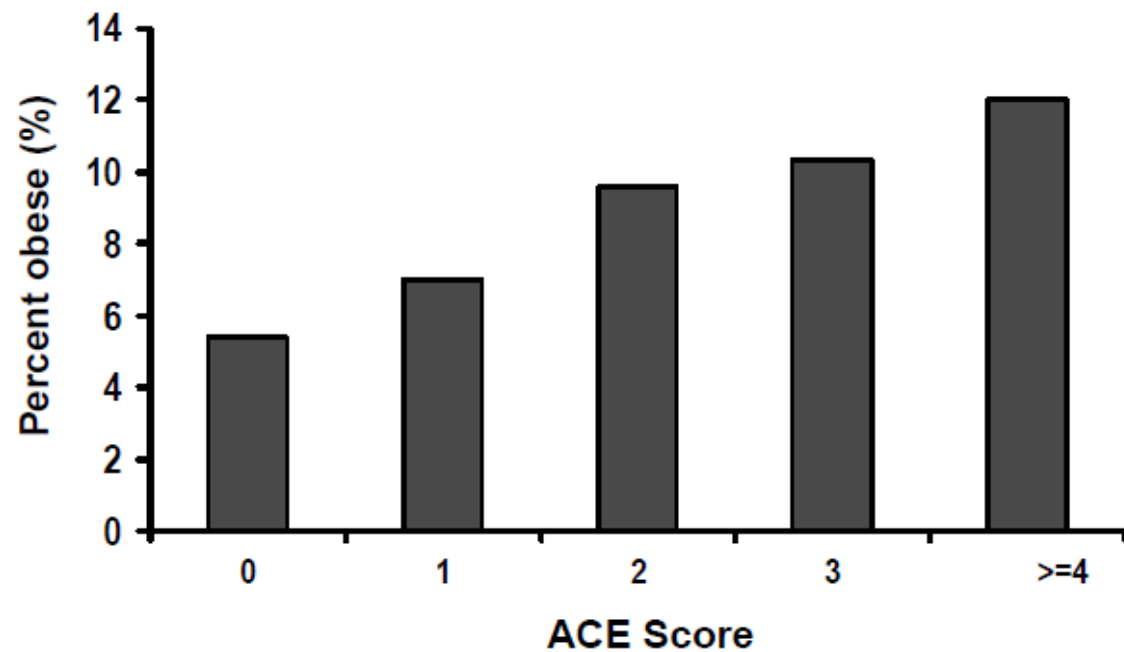


## The ACE Score and the Prevalence of Attempted Suicide



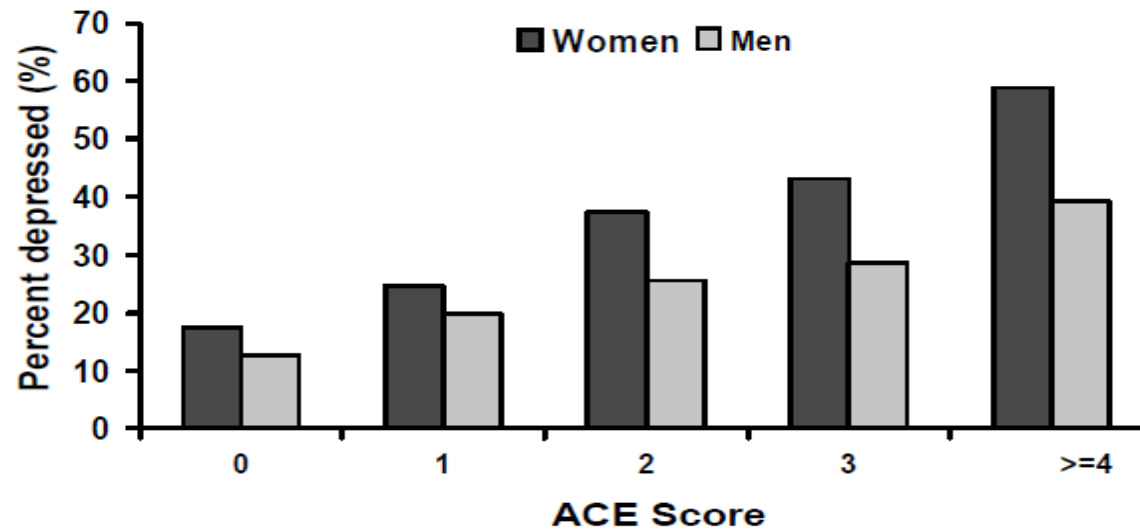


## The ACE Score and the Prevalence of Severe Obesity (BMI $\geq 35$ )



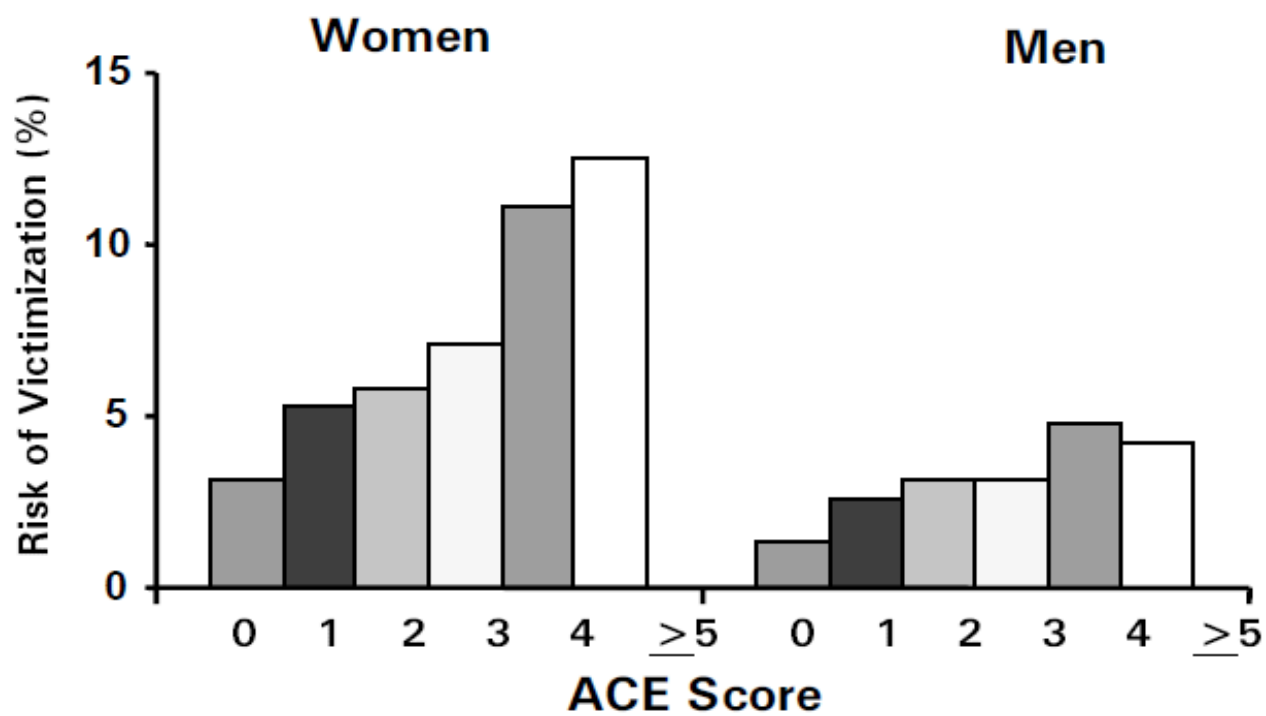


## The ACE Score and a Lifetime History of Depression



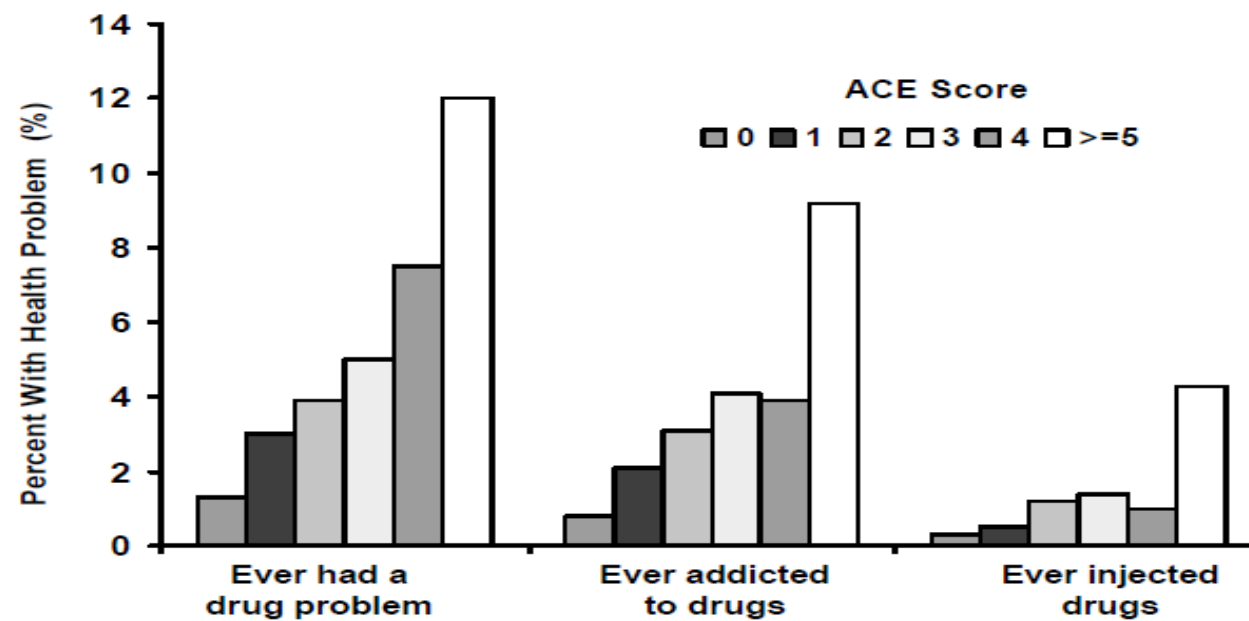


## ACE Score and the Risk of Being a Victim of Domestic Violence

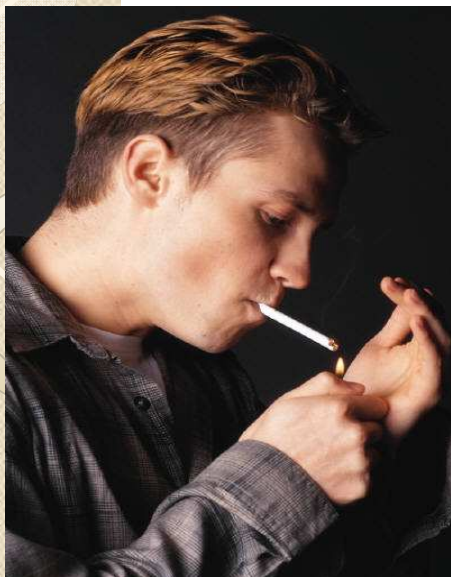




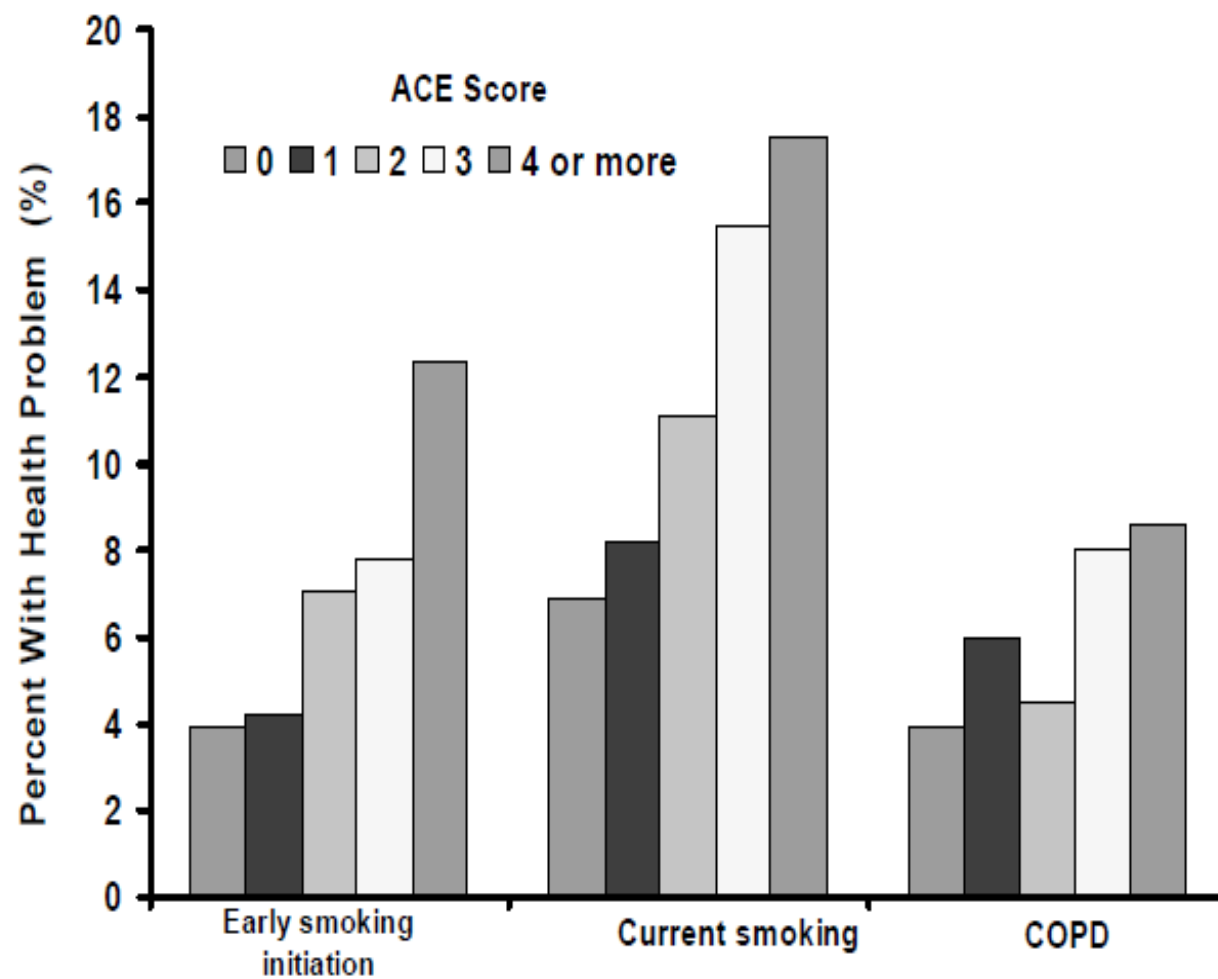
## ACE Score and Drug Abuse







## ACEs, Smoking, and Lung Disease



# Summary of Findings:

- Adverse Childhood Experiences (ACEs) are very common
- ACEs are strong predictors of health risks and disease from adolescence to adulthood
- This combination of findings makes ACEs one of the leading, if not the leading determinant of the health and social well-being of our nation

# ADVERSE CHILDHOOD EXPERIENCES

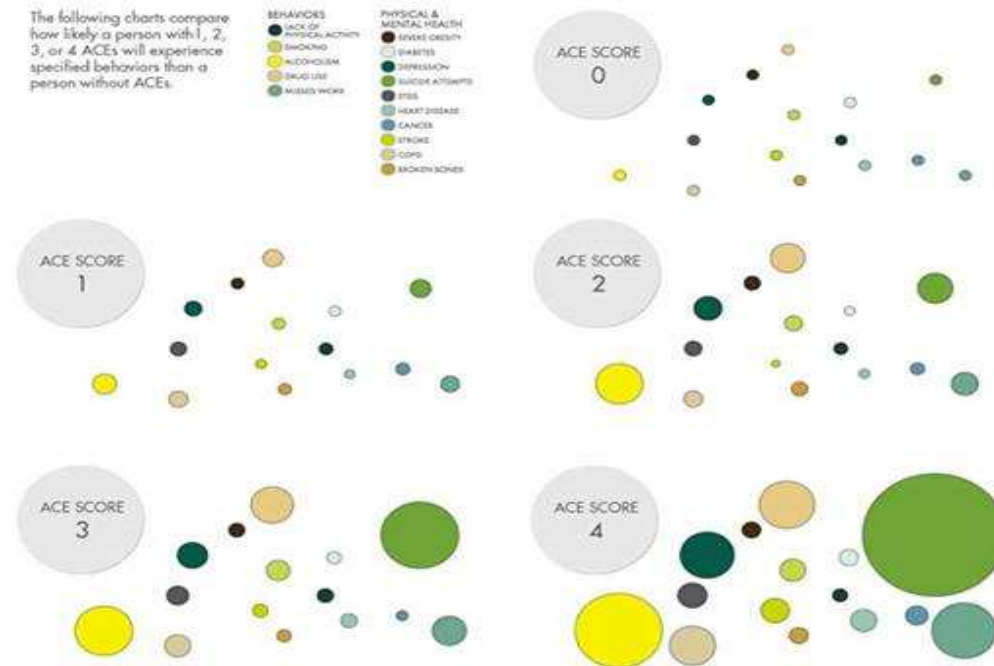
— looking at how ACEs affect our lives & society —

## HOW DO ACES AFFECT OUR LIVES?

### ACES CAN HAVE LASTING EFFECTS **ON** BEHAVIOR & HEALTH...

Simply put, our childhood experiences have a tremendous, lifelong impact on our health and the quality of our lives. The ACE Study showed dramatic links between adverse childhood experiences and risky behavior, psychological issues, serious illness and **the leading causes of death**.

The following charts compare how likely a person with 1, 2, 3, or 4 ACEs will experience specified behaviors than a person without ACEs.

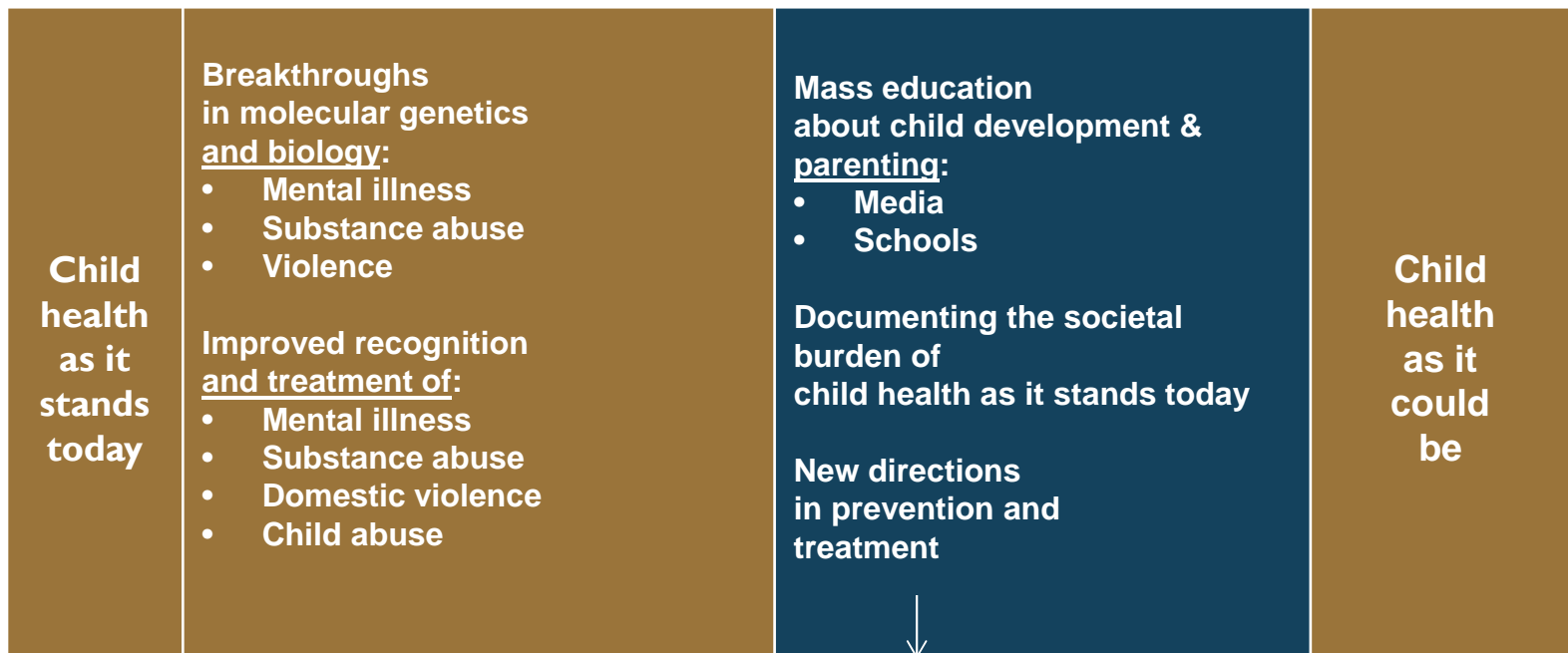


## REFERENCES

ACE Study - <http://www.cdc.gov/cei/>  
 Economic Costs of Childhood Abuse and Neglect - [www.cdc.gov/violenceprevention/childmaltreatment/EconomicCost.html](http://www.cdc.gov/violenceprevention/childmaltreatment/EconomicCost.html)  
 Essentials for Childhood



# Bridging The Chasm





# Bridging The Chasm

Child  
health  
as it  
stands  
today

Involving those who don't yet realize that they are working on issues that represent the "downstream" wreckage of child abuse and neglect--and other adverse childhood experiences--in the effort to bridge the chasm.

Routine screening for trauma is needed

Child  
health  
as it  
could  
be





# Findings of the ACE Study

- ACE score of 6 and higher – an almost 20-year shortening of lifespan.
- ACE score of 4 – 260% more likely to have Chronic Obstructive Pulmonary Disorder (COPD) than a person with an ACE Score of 0.
- ACE score of at least 7 increased the likelihood of childhood/adolescent suicide attempts 51-fold and adult suicide attempts 30-fold.
- ACE scores of 4 or higher increases your chance of having self-acknowledged alcoholism as an adult by 500% (with a history of parental alcoholism).
- ACE scores of 4 or more were 12 times more likely to have attempted suicide, 7 times more likely to be alcoholic, and 10 times more likely to have injected street drugs.



# Why Address Trauma?

*(Fallot & Harris, 2009)*

- Trauma is widespread
- The impact of trauma is broad and touches multiple life domains
- The impact of trauma is often deep and life-altering
- Violent trauma is often self-perpetuating
- Trauma is insidious and preys particularly on the most vulnerable among us
- Trauma affects the way people approach potentially helpful relationships
- Trauma has often occurred in the service context itself

We need to presume the clients we serve have a history of traumatic stress and exercise “universal precautions” by creating systems of care that are *trauma-informed*.



(Hodas, 2005)

## MAGNITUDE OF THE SOLUTION

ACE reduction  
reliably predicts  
simultaneous  
decrease in all of  
these conditions.

Population  
attributable risk



## 2012 policy statement

# PEDIATRICS

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## From the American Academy of Pediatrics



### Policy Statement

## Early Childhood Adversity, Toxic Stress, and the Role of the Pediatrician: Translating Developmental Science Into Lifelong Health

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### This Article

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2012  
pp. e224–e231  
(doi: 10.1542/peds.2011–2662)

- [» Abstract](#) **Free**
- [Full Text](#) **Free**
- [Full Text \(PDF\)](#) **Free**



- We can stop child abuse and neglect by reducing risk of it happening at all and increasing the factors that protect children. Preventing child maltreatment means influencing individual behaviors, relationships among families and neighbors, community involvement, and the culture of a society.



Prevention strategies include effective programs that focus on individual behavior and attitude change, and also efforts that change policies and societal norms to create environments that support safe, stable, nurturing relationships for children and families.



We need to implement effective prevention strategies to stop child abuse and neglect before it happens and to foster commitment to social change.

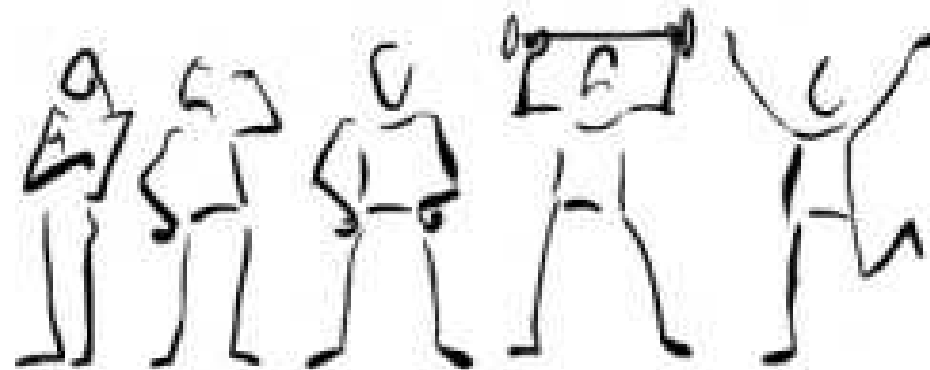


## Specifically...what can be done about ACES?

- Home visiting to pregnant women and families with newborns
- Parenting training programs
- Intimate partner violence prevention
- Social support for parents
- Parent support programs for teens and teen pregnancy prevention programs
- Mental illness and substance abuse treatment
- Preschool Enrichment
- Sufficient income support for lower income families

# Recommendation #1

## MIHP!!



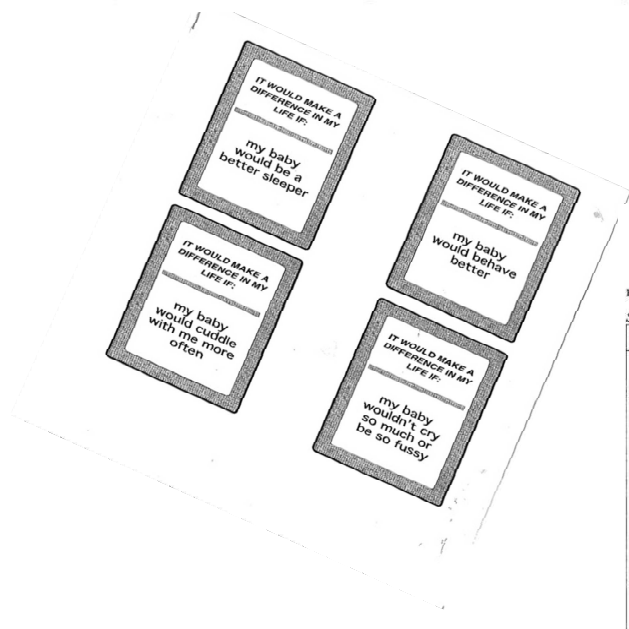
# Risk identifiers and POC2s

MATERNAL INFANT HEALTH PROGRAM (MIHP)  
MATERNAL PLAN OF CARE  
Part 2  
Interventions By Risk Level

Beneficiary:

INTERVENTION LEVEL BASED ON RISK IDENTIFIER	RISK INFORMATION	INTERVENTION Using Motivational Interviewing techniques, complete the following interventions:
<input type="checkbox"/> <b>MODERATE</b> Date:	No or limited social support system	<input type="checkbox"/> Refused all interventions 1. Discuss current social support system <b>Date Achieved:</b> 2. Discuss ways to build social support system <b>Date Achieved:</b> 3. Discuss past history of social support <b>Date Achieved:</b> 4. Discuss feelings about social support network and problem solve regarding ways to improve including development of the three types of social support relationships: ✓ Emotional (expression of empathy, reassurance and positive regard) ✓ Informational (provision of guidance and direction) ✓ Instrumental (provision of tangible assistance, money, food, child care, etc.) <b>Date Achieved:</b> 5. Support beneficiary in interaction with potential social supports (individuals and groups) and provide positive feedback. <b>Date Achieved:</b> 6. As mandated reporter, contact Child Protective Services (CPS) if abuse or neglect is suspected. <b>Date Achieved:</b>
<input type="checkbox"/> <b>EMERGENCY</b> Date:	At imminent risk of self injury due to social isolation and lack of social support	7. Call 911 <b>Date Achieved:</b>

MIHP M008  
Revised 10/1/13



MATERNAL INFANT HEALTH PROGRAM (MIHP)  
MATERNAL PLAN OF CARE  
Part 2  
Interventions By Risk Level

Beneficiary:

INTERVENTION LEVEL BASED ON RISK IDENTIFIER	RISK INFORMATION	INTERVENTION Using Motivational Interviewing techniques, complete the following interventions:
<input type="checkbox"/> <b>LOW</b> Date:	<input type="checkbox"/> History of Mental Health Concern <input type="checkbox"/> History of "baby blues" (less than 2 weeks duration) <input type="checkbox"/> Reports experiencing stress	<input type="checkbox"/> Refused all interventions 1. Review written material on stress, baby blues, and/or perinatal depression/anxiety; emphasize that it's common and treatable. <b>Date Achieved:</b> 2. Discuss stress reduction/coping strategies and/or self-care skills. <b>Date Achieved:</b> 3. Educate on symptoms of depression and/or anxiety to report to health care provider. <b>Date Achieved:</b> 4. Provide support and encouragement. <b>Date Achieved:</b> 5. Provide information/referral to community resources for stress reduction or problem-solving. <b>Date Achieved:</b> <b>In addition to Low Interventions:</b> 6. Discuss treatment options for treating depression (e.g. medication, CMH, clinics, private providers, support groups, IMH Specialist). <b>Date Achieved:</b> 7. Refer for evaluation and treatment
<input type="checkbox"/> <b>MODERATE</b> Date:	<input type="checkbox"/> Currently being treated for mental health concerns Moderate score of 9 to 12 on Edinburgh Postnatal Depression Scale or a High	

MIHP M013  
Revised 10/1/13

MATERNAL INFANT HEALTH PROGRAM (MIHP)  
MATERNAL PLAN OF CARE  
Part 2  
Interventions By Risk Level

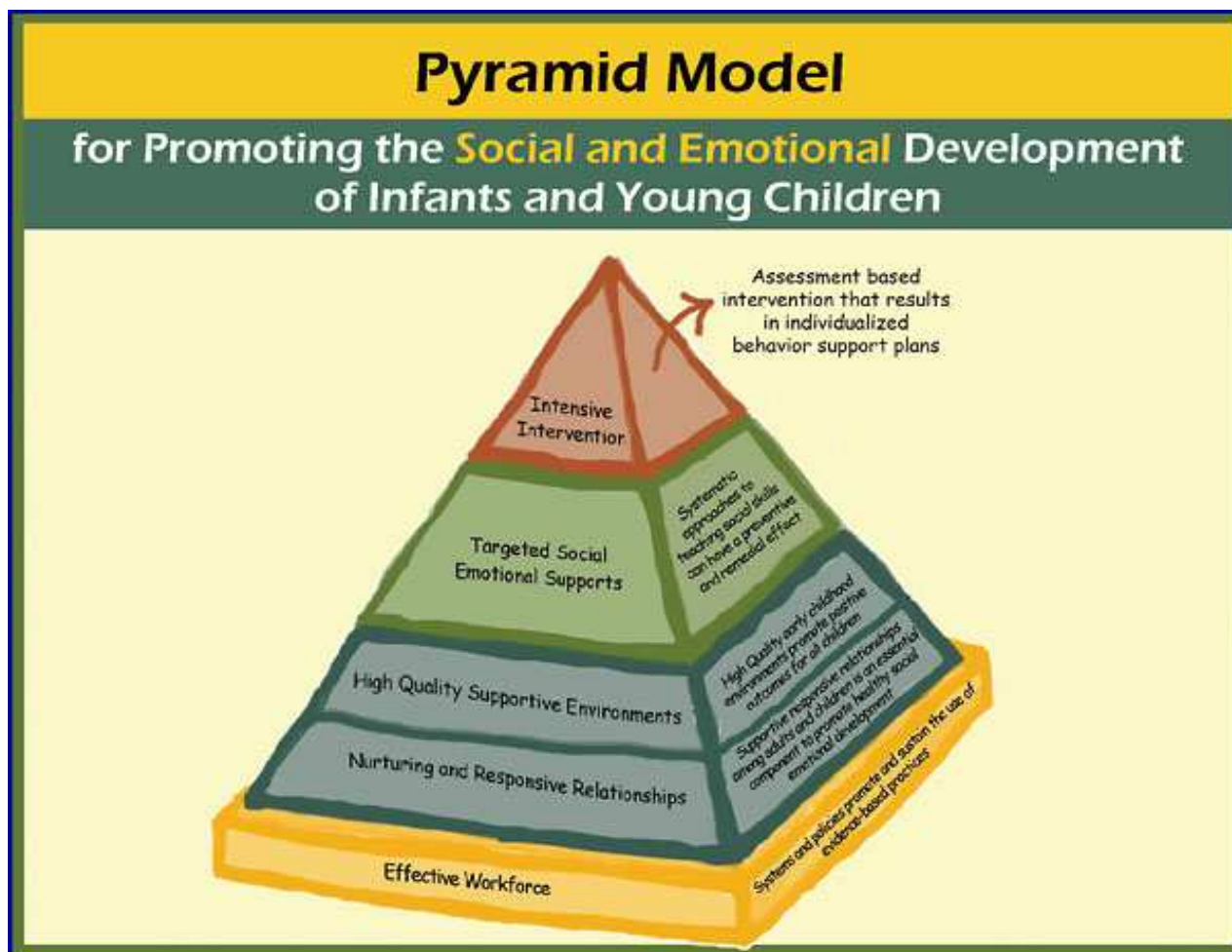
Beneficiary:

INTERVENTION LEVEL BASED ON RISK IDENTIFIER	RISK INFORMATION	INTERVENTION Using Motivational Interviewing techniques, complete the following interventions:
<input type="checkbox"/> <b>MODERATE</b> Date:	No current alcohol use but used alcohol prior to pregnancy and has positive T-ACE score  Currently in alcohol treatment program  <input type="checkbox"/> Suspect currently using alcohol	<input type="checkbox"/> Refused all interventions 1. Discuss risky drinking for women of reproductive age. <b>Date Achieved:</b> 2. Discuss alcohol use in pregnancy and potential effect on fetal development. <b>Date Achieved:</b> 3. Advise how to access substance abuse services in the community, if need arises: ✓ Regional Substance Abuse Coordinating Agency—Designated Women's Program ✓ Alcoholics Anonymous ✓ Community-based support groups ✓ Individual and/or family counseling <b>Date Achieved:</b> 4. If beneficiary is currently in treatment: ✓ Encourage to follow through with treatment recommendations ✓ Provide warm, empathetic support for relapse prevention <b>Date Achieved:</b> 5. If beneficiary is drinking alcohol or you continue to suspect alcohol usage, refer to one or more of the substance abuse services. <b>Date Achieved:</b> 6. Discuss activities that promote sobriety i.e. ✓ Attend 12 Step Groups ✓ Journal ✓ Get a sponsor

MIHP M011  
Revised 10/1/13



## Social Emotional growth Pyramid



# Other ideas!

- Integrate a psychosocial approach into doing medicine. “Psychosocial problems and the new morbidities should no longer be viewed as categorically different from the causes and consequences of other biologically based health impairments.”
- Incorporate into medical school and continuing education classes the knowledge of how childhood toxic stress affects “disruptions of the developing nervous, cardiovascular, immune, and metabolic systems, and the evidence that these disruptions can lead to lifelong impairments in learning, behavior, and both physical and mental health.”



- Take an active leadership role in educating everyone — public, policy makers, educators, etc. — about the long-term consequences of childhood toxic stress.
- Support evidence-based interventions (regardless of the provider or venue) that reduce sources of toxic stress and/or mitigate their adverse effects on young children.



# Thoughts from the researchers...

Not surprisingly, individuals with histories of abuse are often reluctant to engage in, or quickly drop out of, many behavioral healthcare and other social services.



Hyper vigilance and suspicion are often important and thoroughly understandable self-defense mechanisms in coping with trauma exposure – yet they make it difficult to engage in services that may be needed.

# Thoughts from the researchers...

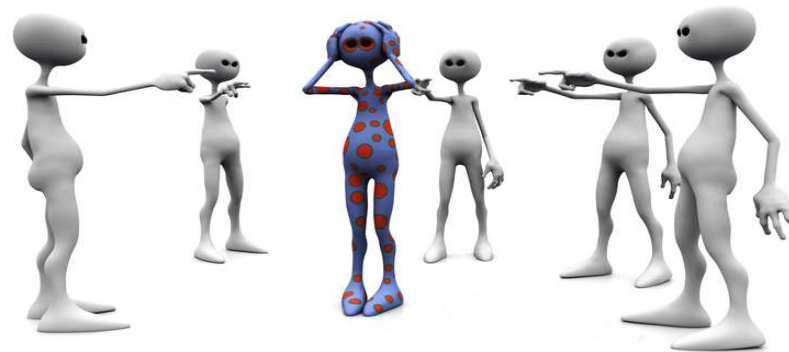
Share your story with all who will listen. For many of us, telling is the first step to healing. It also helps to normalize the conversation about adverse childhood experiences and their impact on our lives. Making it "OK" to talk about what happened removes the power of secrecy.





# Thoughts from the researchers...

Adverse childhood experiences—would typically go undetected because of shame, secrecy and social taboo, which prevent people from talking about such things.

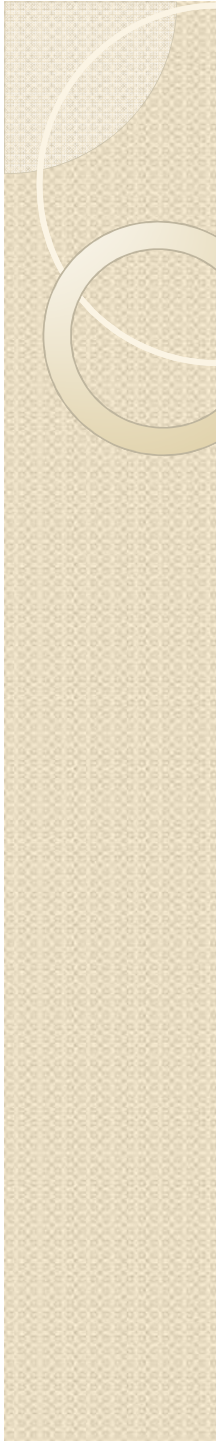


# Thoughts from the researchers...

These same social taboos prevent physicians and other health care providers—those best poised to help victims of child abuse—from asking the very questions that would help identify these underlying causes of major impediments to Americans' health and well being



...the kind of se  
tabloids.  
**taboo** /təbu:/, ta  
custom that forb  
something, becau  
punished by Go  
forbade the Ma





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